Manitoba Agriculture

FARM BUSINESS MANAGEMENT

Information Update

# GUIDELINES FOR ESTIMATING TIMOTHY SEED COST OF PRODUCTION

DATE: February, 1989

This guide is designed to provide you with planning information and a format for calculating the costs of production for Timothy Seed. The production costs included in this budget are not intended as a cost study.

This budget can be useful for comparative purposes. Comparison of costs can be made with other farms; the farm over time; or comparing the plan to the beginning of the production period with the end.

The assumptions on which the costs were calculated are clearly defined in the supporting pages.

MG-15396

## TIMOTHY SEED COST OF PRODUCTION (Per Hectare)

| | | ESTABLISH (1) | CROPPING YEARS (5) | TOTAL YEARS (6) |
|---|---|---|---|---|
| A. | **OPERATING COSTS** | | | |
| 1.01 | Seed | $ 22.93 | $ 0.00 | $ 22.93 |
| 1.02 | Fertilizer | 22.00 | 69.74 | 370.70 |
| 1.03 | Chemicals | 17.90 | 19.00 | 112.90 |
| 1.04 | Machinery Operating | 44.00 | 29.00 | 189.00 |
| 1.05 | Field Inspection | 0.00 | 3.15 | 15.75 |
| 1.06 | Miscellaneous | 12.50 | 12.50 | 75.00 |
| Subtotal Operating Costs | | 119.33 | 133.39 | 786.28 |
| 1.07 | Interest On Operating (14%) | 4.18 | 4.67 | 27.52 |
| **TOTAL OPERATING COSTS** | | **$123.51** | **$138.06** | **$ 813.80** |
| B. | **FIXED COSTS** | | | |
| 2.01 | Land Costs | $ 60.00 | $ 60.00 | $ 360.00 |
| 2.02 | Depreciation | 37.60 | 37.60 | 225.60 |
| 2.03 | Investment (10%) | 29.65 | 29.65 | 177.90 |
| **TOTAL FIXED COSTS** | | **$127.25** | **$127.25** | **$ 763.50** |
| C. | **LABOUR** | | | |
| 3.01 | Labour | $ 40.00 | $ 29.60 | $ 188.00 |
| **TOTAL COST OF PRODUCTION** | | **$290.76** | **$294.91** | **$1,765.30** |
| TOTAL YIELD kg/hectare | | | | 2,310 kg |
| BREAKEVEN COST | | | | |
| | Operating | | | $0.35/kg |
| | Total | | | $0.76/kg |

## TIMOTHY SEED COST OF PRODUCTION (Per Acre)

| | | ESTABLISH (1) | CROPPING YEARS (5) | TOTAL YEARS (6) |
|---|---|---|---|---|
| A. | **OPERATING COSTS** | | | |
| 1.01 | Seed | $ 9.28 | $ 0.00 | $ 9.28 |
| 1.02 | Fertilizer | 8.75 | 30.86 | 163.05 |
| 1.03 | Chemicals | 7.25 | 7.70 | 45.75 |
| 1.04 | Machinery Operating | 17.60 | 11.75 | 76.35 |
| 1.05 | Field Inspection | 0.00 | 1.26 | 6.30 |
| 1.06 | Miscellaneous | 5.00 | 5.00 | 30.00 |
| Subtotal Operating Costs | | 47.88 | 56.57 | 330.73 |
| 1.07 | Interest On Operating (14%) | 1.68 | 1.98 | 11.58 |
| **TOTAL OPERATING COSTS** | | **$ 49.56** | **$ 58.55** | **$ 342.31** |
| B. | **FIXED COSTS** | | | |
| 2.01 | Land Costs | $ 25.00 | $ 25.00 | $ 150.00 |
| 2.02 | Depreciation | 15.20 | 15.20 | 91.20 |
| 2.03 | Investment (10%) | 11.40 | 11.40 | 68.40 |
| **TOTAL FIXED COSTS** | | **$ 51.60** | **$ 51.60** | **$ 309.60** |
| C. | **LABOUR** | | | |
| 3.01 | Labour | **$ 16.00** | **$ 12.00** | **$ 76.00** |
| **TOTAL COST OF PRODUCTION** | | **$117.16** | **$122.15** | **$ 727.91** |
| TOTAL YIELD lbs/acre | | | | 2,100 lb |
| BREAKEVEN COST | | | | |
| | Operating | | | $0.16/lb |
| | Total | | | $0.34/lb |

## ASSUMPTIONS

**Estimated Yield:**

It was assumed the following yields would be obtained over the 6 years of production.

| Years | Estimated Yield | |
|---|---|---|
| | Kilograms/Hectare | Pounds/Acre |
| 1 | 0 | 0 |
| 2 | 440 | 400 |
| 3 | 550 | 500 |
| 4 | 550 | 500 |
| 5 | 440 | 400 |
| 6 | 330 | 300 |
| Total | 2,310 | 2,100 |
| Average | 385 | 350 |

Please note that the Timothy straw must be removed from the field in the fall of each production year. Normally this is accomplished by baling and utilizing the straw for cattle or PMU feed. It is assumed that the cost of straw removal is offset by revenue received from selling the straw.

**Establishment:**

It is assumed that the field being planted was in a cereal crop in the year prior to establishing the timothy. In the spring of the establishment year the perennial weeds are allowed to grow until they are of sufficient size to be controlled through an application of the herbicide Roundup (Glyphosate). It is also assumed that only one-half of the field requires treatment. Approximately one week after this treatment the total field is tilled to prepare a good seedbed. Seed down takes place within one week either way of August 1 with only enough flax being seeded to assist in trapping a good snow cover.

WORKSHEET

## A. OPERATING COSTS

### 1.01 Seed Costs:

| | | | |
|---|---|---|---|
| Timothy | 2.25 kg/ha @ $8.35/kg | = | $18.79/ha. |
| Flax (Snow trap) | 9.0 kg/ha @ $0.46/kg | = | $ 4.14/ha. |
| TOTAL | | | $22.93/ha. |
| or | | | |
| Timothy | 2 lbs/ac @ $3.80/lb. | = | $ 7.60/ac. |
| Flax (Snow trap) | 8 lbs/ac @ $0.21/lb. | = | $ 1.68/ac. |
| TOTAL | | | $ 9.28/ac. |

### 1.02 Fertilizer Cost:

| | | | |
|---|---|---|---|
| Establishment: | 40 kg $P_2O_5$ @ $0.55/kg | = | $22.00/ha |
| | (30 lbs $P_2O_5$ @ $0.25/lb | = | $ 8.75/ac) |
| Cropping: | 121 kg N/ha @ $0.44/kg | = | $53.24/ha (spring) |
| | 30 kg $P_2O_5$ @ $0.55/kg | = | $16.50/ha (fall) |
| | | | $69.74/ha |
| or | | | |
| | 107 lbs N/ac @ $0.23/lb | = | $24.61/ac (spring) |
| | 25 lbs $P_2O_5$ @ $0.25/lb | = | $ 6.25/ac (fall) |
| | | | $30.86/ac |

### 1.03 Chemicals:

For Establishment:
Roundup @ 50% coverage
1 l/acre @ $14.50/l = $14.50/acre.
50% coverage $14.50 x 50% = $7.25/ac

For Cropping:
MCPA every spring and fall, except the first production year, at 227 ml/ac for each application = $3.85/ac

| Year | Establishment Hectare | Establishment Acre | Cropping Hectare | Cropping Acre |
|---|---|---|---|---|
| 1 | $17.90 | $ 7.25 | $ 0.00 | $ 0.00 |
| 2 | 0.00 | 0.00 | 19.00 | 7.70 |
| 3 | 0.00 | 0.00 | 19.00 | 7.70 |
| 4 | 0.00 | 0.00 | 19.00 | 7.70 |
| 5 | 0.00 | 0.00 | 19.00 | 7.70 |
| 6 | 0.00 | 0.00 | 19.00 | 7.70 |
| Total | $17.90 | $ 7.25 | $95.00 | $38.50 |

**1.04 Machinery Operating:**

This includes fuel, maintenance, repairs, licences and insurance. This figure varies for individual farms depending on management, machine age, use and farm size. This budget assumes the following:

| | Establishment | | Cropping Years | |
|---|---|---|---|---|
| | $/ha | $/ac | $/ha | $/ac |
| Fuel | $24.00 | $ 9.60 | $16.00 | $ 6.50 |
| Maintenance & Repairs | $20.00 | $ 8.00 | $13.00 | $ 5.25 |
| **TOTAL** | **$44.00** | **$17.60** | **$29.00** | **$11.75** |

**1.05 Field Inspection:**

Assume total land at 32 hectares (80 acres):

| | |
|---|---|
| Basic | $ 15.00 |
| Acreage (80 x $0.85) | 68.00 |
| Crop Certificate Fee | 5.00 |
| Branch Fee (80 x $0.16) | 12.80 |
| | **$100.80** |
| | **or** |
| **$100.80 ÷ 32 ha =** | **$3.15/ha** |
| **$100.00 ÷ 80 ac =** | **$1.26/ac** |

**1.06 Miscellaneous:**

Overhead expenses, such as telephone, accounting, and hydro were estimated at **$12.50/hectare ($5/acre).**

**1.07 Interest On Operating:**

Interest on operating costs are calculated on the average (1/2) operating cost for a period of six months. In this instance a **14%** interest rate was assumed.

| | Cost/Hectare | | Cost/Acre | |
|---|---|---|---|---|
| | Estimated | Cropping | Estimated | Cropping |
| Subtotal Operating | 119.33 | 133.39 | 47.88 | 56.57 |
| Average for period (÷ 2) | 59.67 | 66.70 | 23.94 | 28.29 |
| Interest @ 14% for 6 months | 4.18 | 4.67 | 1.68 | 1.98 |

**B. FIXED COSTS:**

**2.01 Land Costs:**

Land values for production of Timothy vary throughout the province. It was assumed for purposes of this budget that land for production of Timothy seed could be rented for **$60/hectare ($25/acre).**

**2.02 Depreciation:**

It was assumed that machinery, equipment and storage facilities were the same compliment as a grain farm. It was assumed that machinery and **equipment would average $370/hectare ($150/acre) and storage would average $100/hectare ($40/acre).**

$$\frac{\text{Original Cost - Salvage Value}}{\text{Useful Life}}$$

To calculate this portion of the fixed costs it was assumed that **salvage value was 20%** of the original value and useful life was 10 years.

| | Cost/Hectare | | Cost/Acre | |
|---|---|---|---|---|
| | Machinery | Storage | Machinery | Storage |
| Original Cost | $370.00 | $100.00 | $150.00 | $ 40.00 |
| Salvage Value | 74.00 | 20.00 | 30.00 | 8.00 |
| Useful Life | 10 | 10 | 10 | 10 |
| Depreciation | $ 29.60 | $ 8.00 | $ 12.00 | $ 3.20 |
| TOTAL | $ 37.60 | | $ 15.20 | |

**2.03 Investment Cost:**

To calculate the investment cost the following formula was used:

$$\frac{\text{Original Cost + Salvage Value}}{2} \times \text{Interest Rate}$$

| | Cost/Hectare | | Cost/Acre | |
|---|---|---|---|---|
| | Machinery | Storage | Machinery | Storage |
| Original Cost | $370.00 | $100.00 | $150.00 | $ 40.00 |
| Salvage Value | 74.00 | 20.00 | 30.00 | 8.00 |
| Interest Rate | 10% | 10% | 10% | 10% |
| Depreciation | $ 22.20 | $ 7.45 | $ 9.00 | $ 2.40 |
| TOTAL | $ 29.65 | | $ 11.40 | |

**C. LABOUR COSTS:**

**3.01**

In determining the labour cost the following was estimated:

| | Establish | | Cropping | |
|---|---|---|---|---|
| | Hectare | Acre | Hectare | Acre |
| Hours | 5.0 | 2.0 | 3.7 | 1.5 |
| Rate/Hour | $ 8.00 | $ 8.00 | $ 8.00 | $ 8.00 |
| Total | $40.00 | $16.00 | $29.60 | $12.00 |

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FOR FURTHER INFORMATION CONTACT YOUR LOCAL AGRICULTURAL OFFICE.